Leuven Itch Scale 1.0

Manual

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The Leuven Itch Scale (LIS)

The LIS is an instrument to measure itch in patients experiencing pruritus of different origin. The novelty of the LIS, in contrast with several previously developed instruments, is that it approaches itch as a symptom, and that it consequently measures all aspects of that symptom: frequency, duration, severity, circumstances, treatment, consequences, sensory characteristics, distress and location(s). Hence, it provides a comprehensive view on the issue of itch, and measures itch over the past 4 weeks. The LIS can also be used to assess subaspects of itch. Indeed, we have developed algorithms to calculate subscale scores on 6 domains: frequency, duration, severity, distress, consequences and surface. Hence, the LIS can be used both in descriptive studies as in clinical trials/intervention studies to evaluate whether the therapy under study is effective in the reduction of one or more aspects of itch. The LIS is found to be a useful and clinimetrically sound instrument capable of measuring pruritus in different patient populations affected by itching (Haest et al., 2011).

Reference:
Haest C, Casaer MP, Daems A, De Vos B, Vermeersch E, Morren M, Van Steenbergen W, Ceuppens JL, Moons P. Measurement of itching: Validation of the Leuven Itch Scale. Burns 2011; 37: 939-950.

This manual describes the coding convention and algorithms to calculate subscale scores. Each item has a predefined variable name (e.g. LIS1_Tx). LIS1 refers to item 1 of the LIS. Tx refers to the measuring point. In a cross-sectional study, Tx will become T1 in the database. In longitudinal studies, Tx refers to T1, T2, T3, etc.

Example:
The LIS is used in a longitudinal study, measuring itch 3 times, each with an interval of 4 weeks. The first item of the LIS will be named LIS1_T1, LIS1_T2, LIS1_T3, respectively.

CODING CONVENTION
Leuven Itch Scale (version 1.0 US English)

Please complete this questionnaire in a place where you will not be disturbed. Fill in the date, start at question 1, and put an "X" in the appropriate boxes that best fit your situation. On some questions, several different answers are possible.

Occurrence of itching (pruritus)

Date: .... date_Tx

1. **How often did you experience an itch in the past month?**

LIS1_Tx

0	1	2	3	4
❑ never	❑ rarely *(1 to a few times per month)*	❑ sometimes *(1 to a few times per week)*	❑ often *(1 to a few times per day)*	❑ always

LIS1not_Tx **Why did the itch not occur/return?**

- 0 ❑ because the cause of the itch stopped/because my skin healed over
- 1 ❑ because I have never experienced itch
- 2 ❑ because the treatment I received did the trick
- 3 ❑ because at this time of year I don't get itches
- 4 ❑ because [other reasons]: ……

If you, in the past month, never had an itch, then stop the questionnaire here

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2. **In the past month, how long, on average, did your itching episode last ?**

LIS2_Tx

between 0 and 30 min	between 30 and 60 min	between 1 and 2 hours	more than 2 hours
❑0	❑1	❑2	❑3

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3. **In the past month, when did the itching occur?** (more than 1 answer possible)

in the morning	during the day	in the evening	at night
LIS3a❑Tx	LIS3b❑Tx	LIS3c❑Tx	LIS3d❑Tx

0=no 1=yes

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4. **In the past month, in what circumstances did the itching occur?**
(more than 1 answer possible)

- LIS4a_Tx ❑ during a change in the weather
- LIS4b_Tx ❑ during spells of pain
- LIS4c_Tx ❑ when making a movement
- LIS4d_Tx ❑ when sweating
- LIS4e_Tx ❑ in a hot environment
- LIS4f_Tx ❑ in a cold environment
- LIS4g_Tx ❑ when standing up after sitting or lying down
- LIS4h_Tx ❑ when I was stressed out
- LIS4i_Tx ❑ on contact with air
- LIS4j_Tx ❑ when touching the skin
- LIS4k_Tx ❑ other circumstances: .....

0=no
1=yes

Study number:

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Leuven Itch Scale (version 1.0 US English)

Severity of itching

5. **In the past month, how bad was the itching you have been experiencing?**
(Mark the bar scale below, with an "X")

LIS5_Tx

No itch ——————————————— Worst possible itch

Expressed in millimeter 0-100

Treatment of itching

6. **In the past month, how was your itching treated?** (more than 1 answer possible)

LIS6a_Tx ❑ no treatment
LIS6b_Tx ❑ with an ointment → Name: .....
LIS6c_Tx ❑ with medication → Name: .....
LIS6d_Tx ❑ otherwise: .....

0=box not checked
1=box checked

7. **If you are receiving treatment, how satisfied are you with the treatment for your itching?**
(Mark the bar scale below, with an "X")

LIS7_Tx

Very dissatisfied ——————————————— Very satisfied

Expressed in millimeter 0-100

Consequences of itching

8. **In the past month, what were the consequences of your itching?**

		0 never	1 rarely	2 some-times	3 often	4 always
LIS8a_Tx	1. lesions from scratching	❑	❑	❑	❑	❑
LIS8b_Tx	2. reduced social contact due to itching	❑	❑	❑	❑	❑
LIS8c_Tx	3. reduced quality of life due to itching	❑	❑	❑	❑	❑
LIS8d_Tx	4. disturbed my routine activities due to itching	❑	❑	❑	❑	❑
LIS8e_Tx	5. difficulties in falling asleep due to itching	❑	❑	❑	❑	❑
LIS8f_Tx	6. waking up due to itching	❑	❑	❑	❑	❑
LIS8g_Tx	7. needed sleeping pills due to itching	❑	❑	❑	❑	❑
LIS8h_Tx	8. loss of appetite due to itching	❑	❑	❑	❑	❑
LIS8i_Tx	9. bad mood due to itching	❑	❑	❑	❑	❑
LIS8j_Tx	10. changes in behavior toward others due to itching	❑	❑	❑	❑	❑
LIS8k_Tx	11. loss of concentration due to itching	❑	❑	❑	❑	❑
LIS8l_Tx	12. other consequences:.....	❑	❑	❑	❑	❑

Study number:

Leuven Itch Scale (version 1.0 US English)

Sensory characteristics of itching

9. **In the past month, how did your itching manifest itself?**

LIS9a_Tx ❑ A tickling sensation *"as if a creepy-crawly thing was crawling over my skin"*
LIS9b_Tx ❑ A tingling sensation *"on a bitter … oiling hot house"*
LIS9c_Tx ❑ A prickling sensation *"like being …*
LIS9d_Tx ❑ A stinging sensation *"like some…*
LIS9e_Tx ❑ A burning sensation *"like being …*
LIS9f_Tx ❑ Another kind of sensation: .....

0=box not checked
1=box checked

Distress of itching

10. **In the past month, how distressing was your itching?**
(Mark the bar scale below with an "X")

LIS10_Tx

Not distressing at all — Very distressing

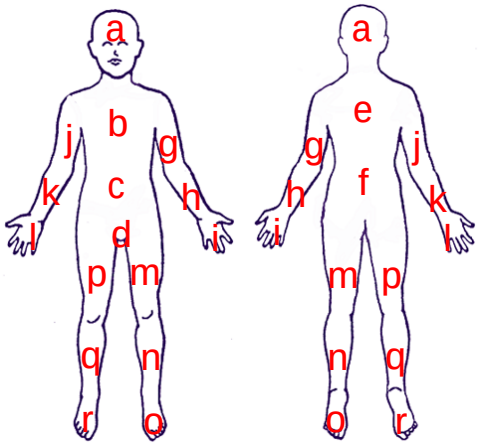
Expressed in millimeter 0-100

Location(s) of itching

11. **In the past month, which parts of your body itched?**
(shade the area(s) which itched)

LIS11x_Tx

Indicate for each body part the **percentage** of Total Body Surface Area (palm of the hand=1%)



a=head
b=thorax
c=abdomen
d=genitals
e=upper back
f=lower back
g=left upper arm
h=left forearm
i=left hand
j=right upper arm
k=right forearm
l=right hand
m=left thigh
n=left leg
o=left foot
p=right thigh
q=right leg
r=right foot

Remarks

12. **If you have any other questions or remarks, please write them here:**

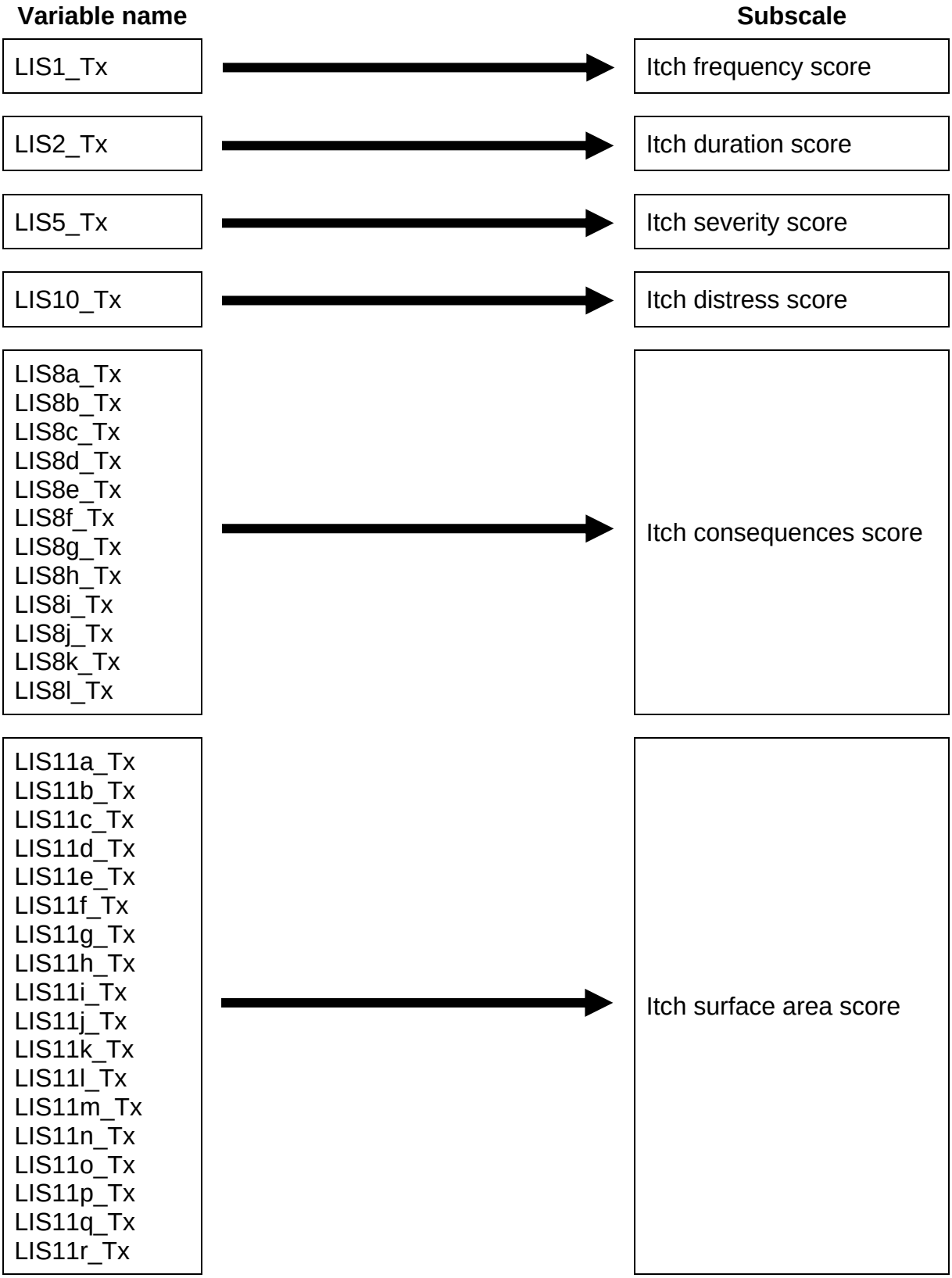
LIS12_Tx

Text variable

Study number:

Measuring model

All items can be reported descriptively, by means of frequency distributions. Furthermore, subscale scores can be calculated, using the following model.



Calculation of subscale scores

Itch frequency score

Step 1: Transform the scores of item LIS1_Tx to a scale from 0 to 100. Make FREQ_Tx as output variable.

Input variable	*Output variable*
LIS1_Tx	FREQ_Tx
Input score	*Output score*
0	0
1	25
2	50
3	75
4	100

Step 2: Calculate the mean and standard deviation of variable FREQ_Tx

Itch duration score

Step 1: Transform the scores of item LIS2_Tx to a scale from 0 to 100. Make DUR_Tx as output variable.

Input variable	*Output variable*
LIS2_Tx	DUR_Tx
Input score	*Output score*
0	0
1	33.33
2	66.66
3	100

Step 2: Select patients with a score greater than 0 on FREQ_Tx. Calculate the mean and standard deviation of variable DUR_Tx

Itch severity score

Step 1: Make a new variable: SEV_Tx. Copy the scores of item LIS5_Tx into variable SEV_Tx.

Step 2: Select patients with a score greater than 0 on FREQ_Tx. Calculate the mean and standard deviation of variable SEV_Tx

Itch distress score

Step 1: Make a new variable: DIST_Tx. Copy the scores of item LIS10_Tx into variable DIST_Tx.

Step 2: Select patients with a score greater than 0 on FREQ_Tx. Calculate the mean and standard deviation of variable DIST_Tx

Itch consequences score
Step 1: Transform the scores of item LIS8x_Tx to a scale from 0 to 100. Make LIS8xRC_Tx as intermediate variables.

Input variable	*Intermediate variable*
LIS8a_Tx	LIS8aRC_Tx
LIS8b_Tx	LIS8bRC_Tx
LIS8c_Tx	LIS8cRC_Tx
LIS8d_Tx	LIS8dRC_Tx
LIS8e_Tx	LIS8eRC_Tx
LIS8f_Tx	LIS8fRC_Tx
LIS8g_Tx	LIS8gRC_Tx
LIS8h_Tx	LIS8hRC_Tx
LIS8i_Tx	LIS8iRC_Tx
LIS8j_Tx	LIS8jRC_Tx
LIS8k_Tx	LIS8kRC_Tx
Input score	*Output score*
0	0
1	25
2	50
3	75
4	100

Step 2: Calculate CONS_Tx as output variable by summing LIS8aRC_Tx to LIS8kRC_Tx and dividing it by 11.

Step 3: Select patients with a score greater than 0 on FREQ_Tx. Calculate the mean and standard deviation of variable CONS_Tx

Itch surface area score
Step 1: Calculate LOC_Tx as output variable by summing LIS11a_Tx to LIS11r_Tx. The maximum score is 100 (the entire body).

Step 2: Select patients with a score greater than 0 on FREQ_Tx. Calculate the mean and standard deviation of variable LOC_Tx

Reference List:

Articles in international peer-reviewed journals

Haest C, Casaer MP, Daems A, De Vos B, Vermeersch E, Morren M, Van Steenbergen W, Ceuppens JL, Moons P. Measurement of itching: Validation of the Leuven Itch Scale. Burns 2011; 37: 939-950.

Yuste V, Agullo A, Silva M, Delgado J, Albinana F, Monclus E. Spanish transcultural adaptation of the Leuven Itch Scale. Burns 2013; 37: 957-964.

Snauwaert JJ, Yuen WY, Jonkman MF, Moons P, Naulaers G, Morren MA. Burden of itch in epidermolysis bullosa. British Journal of Dermatology 2014, 171: 73-78.

Abstracts presented at international conferences

Snauwaert J, Morren M, Moons P. Characteristics of itch in the different populations with epidermolysis bullosa (EB) using the Leuven Itch Scale. Acta Dermato-Venereologica 2011; 91: 632. [6th World Congress on Itch, Brest, France, 4-6 Sept. 2011]

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Moons P, Casaer MP, Haest C, Morren M. Profile of itch experience in patients with atopic dermatitis, chronic urticaria and burns: Direct comparison using the Leuven Itch Scale. Acta Dermato-Venereologica 2011; 91: 631-632. [6th World Congress on Itch, Brest, France, 4-6 Sept. 2011]

Moons P, Colpaert M, Haest C, Casaer MP. Evolution of itch in patients with burns: A 12-weeks follow-up study. Acta Dermato-Venereologica 2011; 91: 630. [6th World Congress on Itch, Brest, France, 4-6 Sept. 2011]

Morren MA, Casaer MP, Haest C, Moons P. Development and validation of the Leuven Itch Scale. 19th EADV Congress. Gothenburg, Sweden, 2010.

Casaer M, Haest C, Moons P. How to measure itching? Proceedings of the 12th Nordic Burn Meeting, Bergen, Norway, 2010.